



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/563,961

01/10/2006

Satoru Miyazawa

038788.57306US

7356

23911 7590 04/16/2009
CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

HU, HENRY S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

04/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,961	Applicant(s) MIYAZAWA ET AL.	
	Examiner HENRY S. HU	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Election of January 23, 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 6-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to Election along with its Amendment both filed on January 23, 2009, which are in response to Restriction requirement filed on December 24, 2008. With such pre-amendment, **Claim 5 is amended, while no claim was cancelled or added.** To be more specific, dependent **Claim 5** is only amended to remove the multiple claim dependency.

Applicant's Election of Group I, Claims 1-5 is traversed with remarks on pages 8-10. The traversal is on the ground(s) that no lack of unity objection is raised for PCT application. It would thereby not place an undue burden to search and examine the non-elected Group II (Claims 6-13) with the elected Group I. This is not found persuasive because Group I is directed to a monomer having an acrylic formula (I) having two hexafluorocarbonol groups, while Group II is directed to a polymer obtained by polymerization or copolymerization by a monomer of Group I. As discussed earlier and also below, such a monomer or polymer is either obvious or anticipated by following: **US 7,105,618 B2 to Komoriya et al., US 7,094,850 B2 to Miyazawa et al., US 7,135,595 B2 to Allen et al., and US 6,784,312 B2 to Miyazawa et al.,** each individually or in combination. The key point for proper restriction is that the property of monomer will not show up completely in polymer due to much higher molecular weight in polymer. They are thereby not equivalent and interchangeable.

Art Unit: 1796

2. The structural elements are mutually exclusive and the search terms are also mutually exclusive, thus they indeed create an undue burden on the Examiner. The requirement is still deemed proper and is therefore made FINAL.

Therefore, Applicants have filed **two Pre-Amendment** and **two IDS** (2 page each) so far. This Application is a **371/PCT/JP04/01210** with a Japanese priority at July 10, 2003. **Claims 1-13 with only one independent claim** (Claim 1) are now pending, while non-elected Claims 6-13 (Group II) is withdrawn from consideration by the examiner. An action follows. Only P/X cited reference is found in international search report in Applicants' priority document **WO 2005/005370 A1 to Miyazawa et al.**

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. The limitation of parent **Claim 1** in present invention relates to **a polymerizable acrylate compound** represented by the general formula (1) having **two hexafluorocarbonol groups**.

In the formula, R^1 represents a hydrogen atom, halogen atom, hydrocarbon group or fluorine-containing alkyl group, R^2 and R^3 may be different or identical, and each of them independently is a hydrogen atom, fluorine atom, hydrocarbon group optionally branched, fluorine-containing alkyl group, aromatic group, or cyclic structure containing an aliphatic group and may contain oxygen or carbonyl bond.

See other limitations of dependent Claims 2-5.

5. **Claims 1-5 are rejected** under 35 U.S.C. 102(e) as being anticipated by each of **three** references including Miyazawa et al. (US 6,784,312 B2, effective US filing date at July 24, 2001 with the **same assignee Central Glass**), Miyazawa et al. (US 7,094,850 B2, effective US filing date at July 24, 2001 with the **same assignee Central Glass**) and Komoriya et al. (US 7,105,618 B2, effective US filing date at December 13, 2001 with the **same assignee Central Glass**).

It is noted that all of Miyazawa (312), Miyazawa (850) and Komoriya are with the same assignee but with **different inventor entities**. **The scope of monomer having formula (I) will include four acrylic moieties since R^1 can be hydrogen atom, halogen atom, alkyl group or fluorine-containing alkyl group.** The acrylic moiety includes: (A) $CH_2=CH-COO^-$, (B) $CH_2=C(R)-COO^-$, wherein R is alkyl group, (C) $CH_2=C(X)-COO^-$, wherein X is halogen such as F, Cl, Br and I, and (D) $CH_2=C(R_f)-COO^-$. **R^2 and R^3 may be different or identical, and each is a hydrogen atom, fluorine atom, alkyl group, fluorine-containing alkyl group, aromatic group, or cyclic structure containing an aliphatic group and may contain oxygen or carbonyl bond.**

Art Unit: 1796

6. Regarding the monomer limitation of parent **Claim 1**, each of **three** references including **Miyazawa (312)**, **Miyazawa (850)** and **Komoriya** has explicitly disclosed using the claimed fluorinated polymerizable “functional” monomer, which is structurally reading on the claimed formula (I). Such type functional monomer has a special structure, that is, a hydroxyl or a substituent for protecting or modifying hydroxyl group. Such a monomer or a mixture of monomers has been made into many polymers, which are suitable in many applications such as reflection preventive material, photosensitive coatings, and resist materials. The 102(e) rejections are based on the fact that **“at least some” monomers disclosed by references indeed anticipate the current monomer limitation** of parent Claim 1 as follows:

7. See **Miyazawa (312)** and its DIV case **Miyazawa (850)** at abstract; particularly see its **formula (1)** being with a combination of **n = 2, R¹ = hydrogen atom, halogen atom, alkyl group or fluorinated alkyl group, R² = branched alkyl group, and R³ = hydrogen atom, alkyl group or fluorinated alkyl group.** With respect to the critical scope of branched alkyl group, **R² can be isopropylene group** (see column 2, line 63 – column 3, line 35; particularly see **column 3, line 1-3 for “312”**; see column 3, line 1-44; particularly see **column 3, line 6-7 for “850”**). Therefore, the claimed **isopropanetridyl** group has been applied.

8. See **Komoriya** at column 12, line 14—column 13, line 34; particularly see monomer on the right of its **formula (10)** being with a combination of **n = 2, R₁₀ = hydrogen atom, methyl group or trifluoromethyl group, R₁₁ = branched alkyl group, and R₁₂ = hydrogen atom, alkyl group or fluorinated alkyl group.** With respect to the critical scope of branched alkyl

Art Unit: 1796

group, **R²_{II} will certainly include isopropylene group** according to the art (see **column 12, line 33-36 and 52-53**). Therefore, the claimed **isopropanetridyl** group has been applied.

9. Regarding **Claims 2 and 3**, the alkyl group or fluorinated alkyl group with carbon number 1-20 or 1-4 as mentioned in the claimed three factors R¹, R² and R³ have been used by references. See above discussion for Miyazawa (312), Miyazawa (850) and Komoriya.

Regarding **Claim 4**, the claimed four monomers with formulas (2) to (5) have been included by references. See above discussion for Miyazawa (312), Miyazawa (850) and Komoriya.

Regarding **Claim 5**, the claimed monomer with each of R² and R³ being hydrogen atom have been included by references. See above discussion for Miyazawa (312), Miyazawa (850) and Komoriya.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a polymerizable acrylate compound represented by the general formula (1) having **two hexafluorocarbonol groups and/or its protecting groups**:

Art Unit: 1796

US 4,578,508 to Griffith et al. have disclosed the making of some fluorinated functional acrylic monomers **having a formula (IV)**, which carries **two hexafluorocarbinol groups and/or its protecting groups (on the same aromatic ring)**. See abstract and specification. The claimed **isopropanetridyl** group is not used. Therefore, Griffith fails to teach or fairly suggest present invention.

Each of US 7,135,595 B2 to Allen et al. and US 3,438,946 to Lichstein et al. has only disclosed the making of some fluorinated acrylic functional monomers having a formula (**see formula (I) for Allen; see column 5, line 20 for Lichstein**), which carries only **one hexafluorocarbinol group**. The claimed **isopropanetridyl** group is not used at all so as to carry two hexafluorocarbinol groups. Therefore, each of Allen and Lichstein fails to teach or fairly suggest present invention.

11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Vasu Jagannathan, can be reached on (571) 272-1119. The **fax** number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter D. Mulcahy/
Primary Examiner, Art Unit 1796

/Henry S. Hu/
Examiner, Art Unit 1796

April 10, 2009